

NOTES ON A CASE OF FUSIFORM ANEURISM TREATED BY MATAS'S METHOD.

BY ROBERT T. MORRIS, M.D.,
OF NEW YORK.

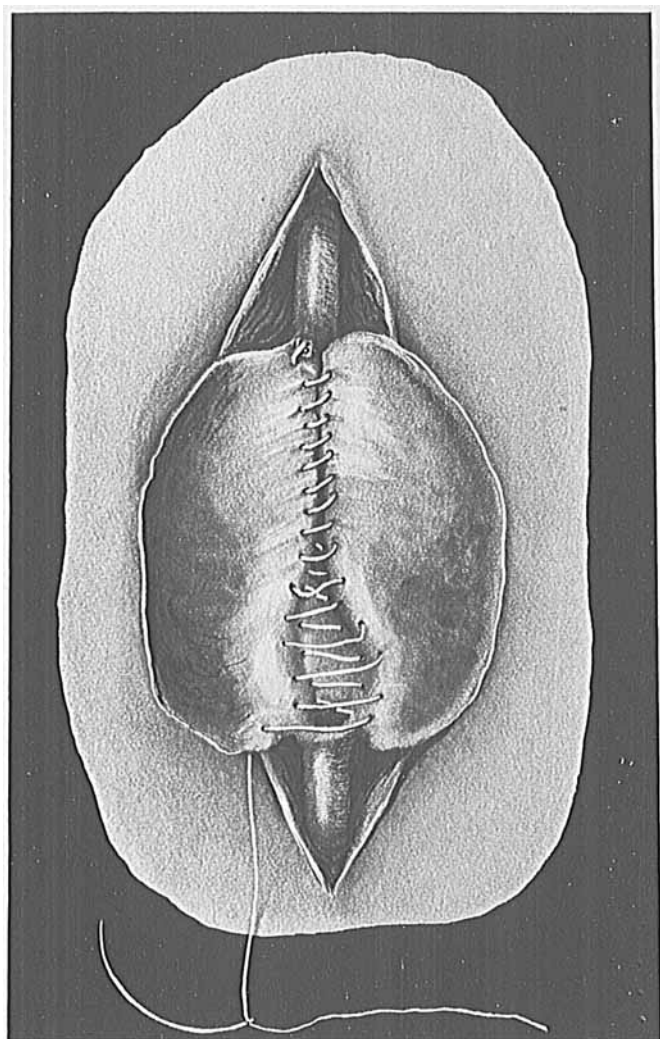
IN the ANNALS OF SURGERY for February, 1903, Dr. Rudolph Matas described a new method for the treatment of aneurism based upon arteriorrhaphy, and the fact that the endothelial surface of the artery is "capable of exhibiting all of the reparative and regenerative reactions which characterize the endothelial surfaces in general when subjected to irritation."

The first case which seemed to offer an opportunity for the application of the method for constructing a channel through the aneurismal sac came under my care in May, through the kindness of Dr. H. P. Geib, of Stamford, Connecticut. The patient was a strong, robust man, G. H., fifty-eight years of age, who had been in the habit of sitting, when reading, with the right leg over the arm of his chair. He noticed that this often caused pain in the popliteal region, and he had apparently caused sufficient traumatism of the popliteal artery to endanger the integrity of its coats. No other part of his history seemed to have a bearing in the case. During the past four years a swelling in the right popliteal region had been increasing, until at the time when I first saw the patient the aneurism was so large that its pulsations were visible on both sides of the knee, when viewed from the patellar side. Lymph stasis in the leg was so marked in degree that the leg was tense and swollen, although it had been tapped several times to allow the cedema to subside. It seemed to us that a ligation of the femoral artery would be particularly dangerous in the case, on account of the condition of the blood- and lymph-vessels of the leg; and it was decided to attempt to give relief by the Matas method. The operation was performed at the patient's home in Sound Beach, Connecticut, on May 16, 1903, Drs. H. P. Geib, G. W. Birch, and L. W. Munson assisting. The

leg was prepared with a germicidal depilatory a few minutes before operation, and, as an incidental note, it may be stated that this method, which avoids the necessity for shaving and sterilizing by more elaborate measures, simplified the process of making the skin aseptic in a most satisfactory way. One can accomplish in five minutes with a germicidal depilatory all that is accomplished in several hours of preparation by the cumbersome methods at present in vogue; and in a case of this sort, in which a very large area needed to be sterilized, the advantages of the method were much in evidence.

An elastic bandage was applied from the foot to the thigh, and secured at a convenient point above the site of the aneurism. An incision ten inches in length was carried longitudinally through the tissues of the popliteal space, and this included the wall of the sac of the aneurism. A double handful of clots was removed from the sac, and the aneurism was determined to be of the fusiform type, with a large, thin-walled diverticulum which constituted the chief part of the mass. With No. 1 chromicized catgut a running suture was carried through the tissues of the deepest part of the sac in such a way as to construct something more than three inches of new artery of a caliber estimated to be similar to that of the normal artery, and a second row of sutures was introduced for fortification. The remainder of the sac was left undisturbed and still adhering to its surroundings. The new artery was held between my fingers when the elastic bandage was removed from the thigh, and it was a moment of considerable interest. Pulsation bounded through the new artery, and it did not leak at any point. The patient's foot became warm, but it was not possible to find pulsation in the arteries of the foot, on account of the tension of the œdematous tissues. The wound was closed without drainage, and it healed completely by primary union. The swelling of the leg began to subside immediately after the operation, and assistance was given by massage administered by the trained nurse, who remained constantly near the patient for the first few days.

Paralysis of sensation and of motion which had resulted from the presence of the aneurism began to disappear shortly after the operation. Sensation was well defined over the right leg and foot by the seventh day. By the twenty-second day, when the patient was first allowed to sit out of bed, the only important



Suture of aneurismal sac in case of fusiform aneurism of the popliteal artery.

paralysis of motion remaining involved the anterior tibial group of muscles, and this is improving under treatment. On the twenty-second day the site of the aneurism was carefully examined for the first time. The newly constructed artery gives the impression of being larger than the popliteal artery of the left leg. Whether this is due to the thicker walls of the new artery, or whether I did not estimate quite closely enough on the caliber of the normal artery, it is difficult to say. In any event, the restoration of function is satisfactory.

Dr. Matas writes, "I am very glad, indeed, that you have been able to put this method to a practical test, as I had only suggested it without having had an opportunity to apply it in fusiform aneurisms. In all my cases of this type, I had limited my intervention to a simple closure of the orifices by suture and obliteration of the sac by infolding of its walls with the overlying skin."

In this particular case it was impossible to carry out Dr. Matas's plan of infolding the walls of the sac for extra protection, because the tissues of the popliteal space were so cedematous.

I regret that Dr. Matas's method had not been described at the time when my case of ligation of the abdominal aorta for aneurism was in hand. (Reported in *ANNALS OF SURGERY*, February, 1902.) In that case the walls of the aneurism could have been sutured for the construction of a new artery quite as readily as the work was done in the case of popliteal aneurism. I shall watch for an opportunity to try the Matas method in a case of carotid aneurism, and believe that in selected cases we may be able to carry the blood temporarily through a rubber tube with glass ends inserted through normal artery walls above and below the site of the aneurism during the time when a new artery is being constructed out of the walls of the aneurismal sac, if the case does not permit control of the circulation by pressure.